

1/20

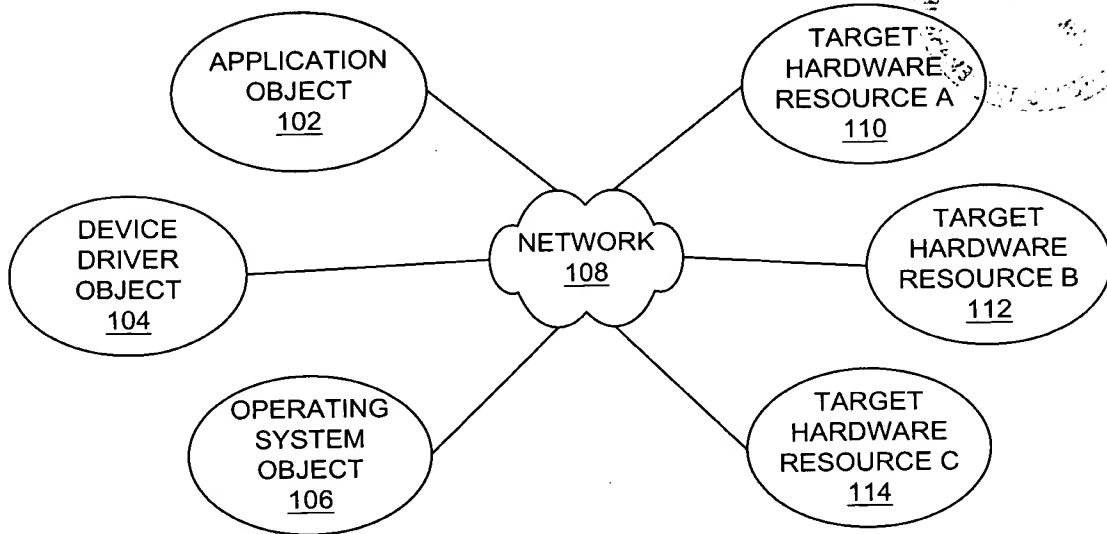


FIG. 1
(PRIOR ART)

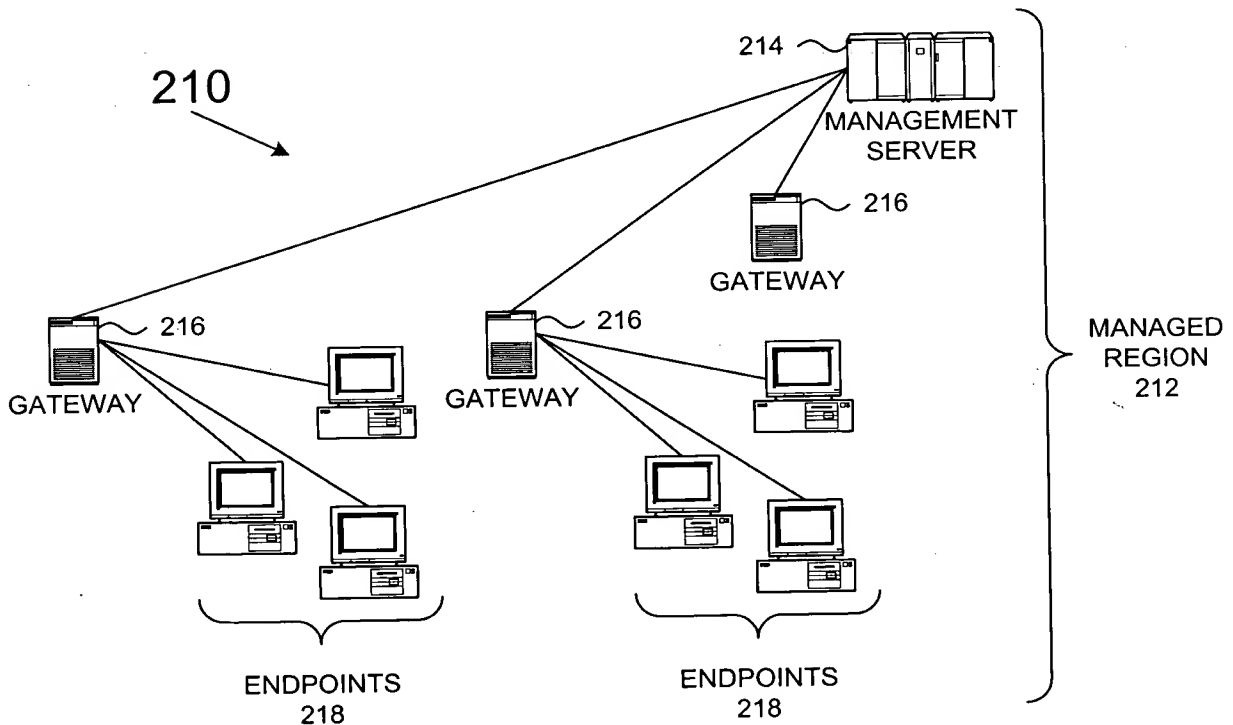


FIG. 2A

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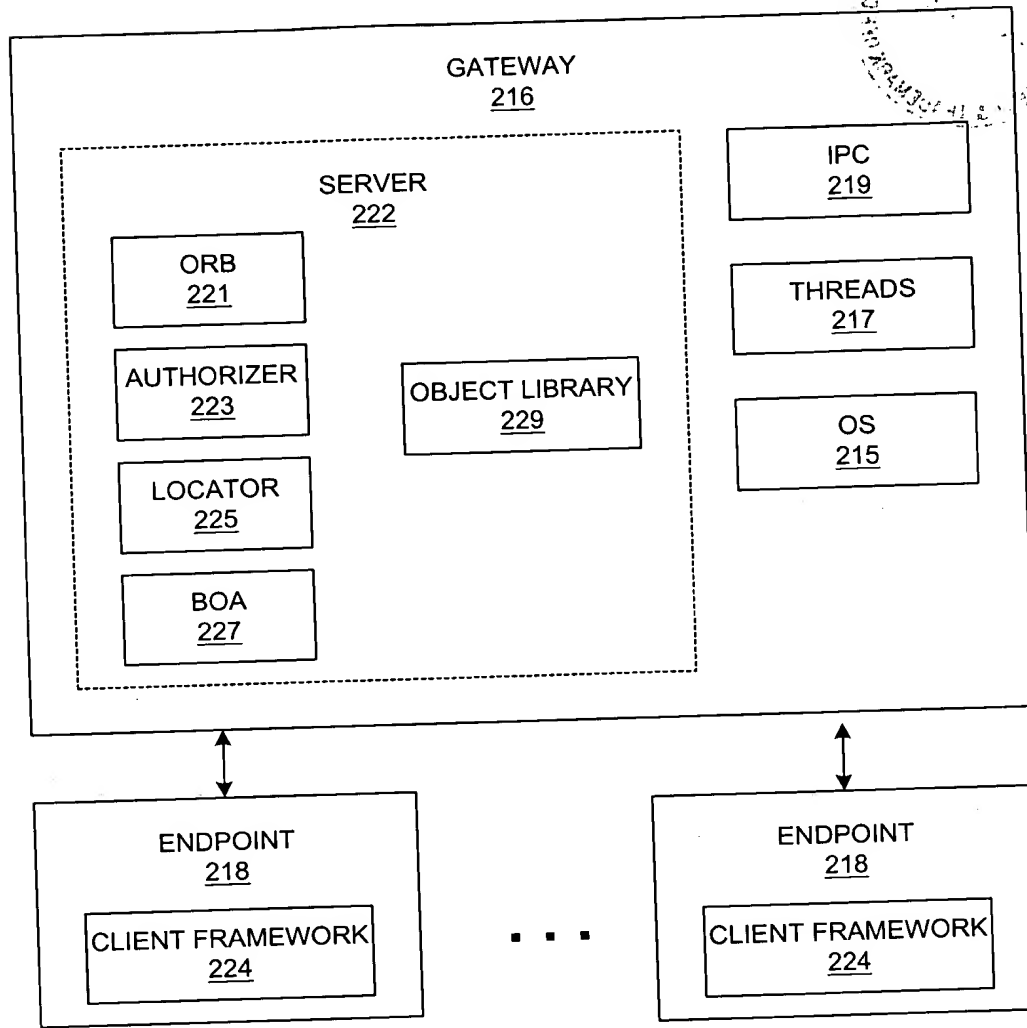


FIG. 2B

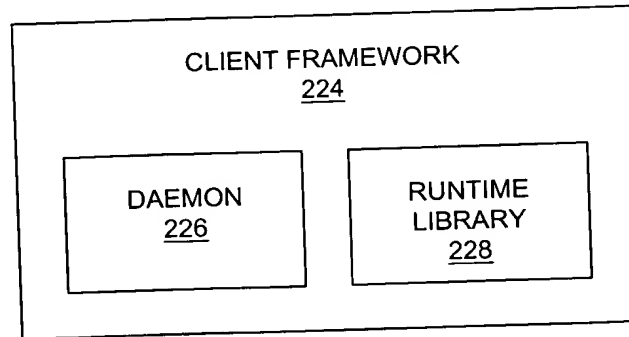


FIG. 2C

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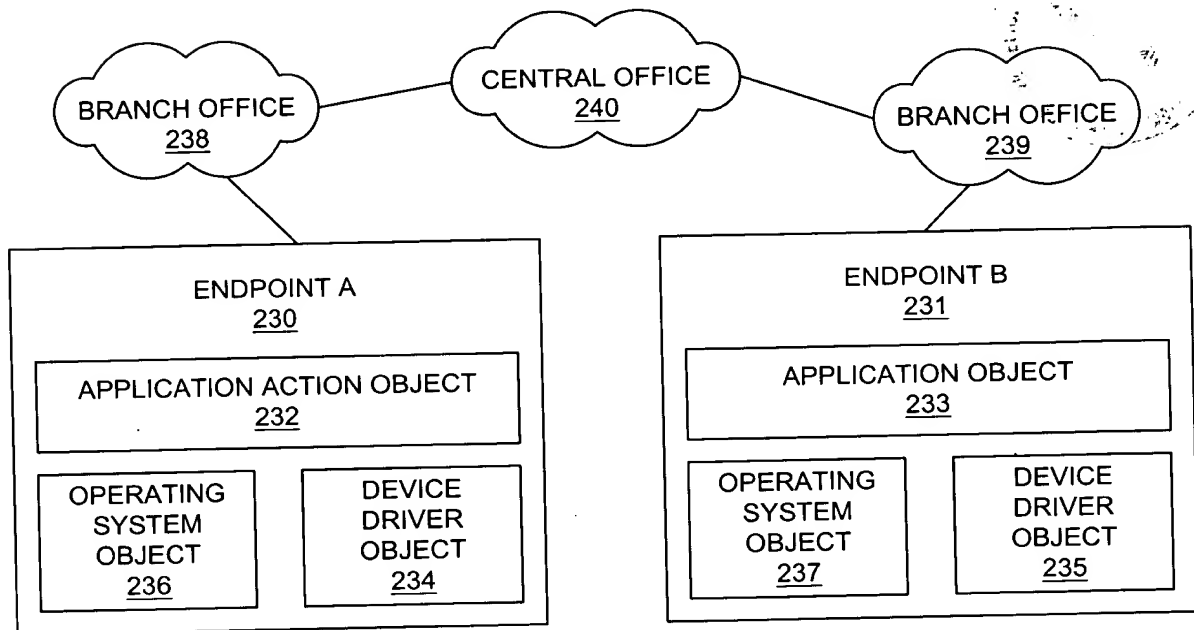


FIG. 2D

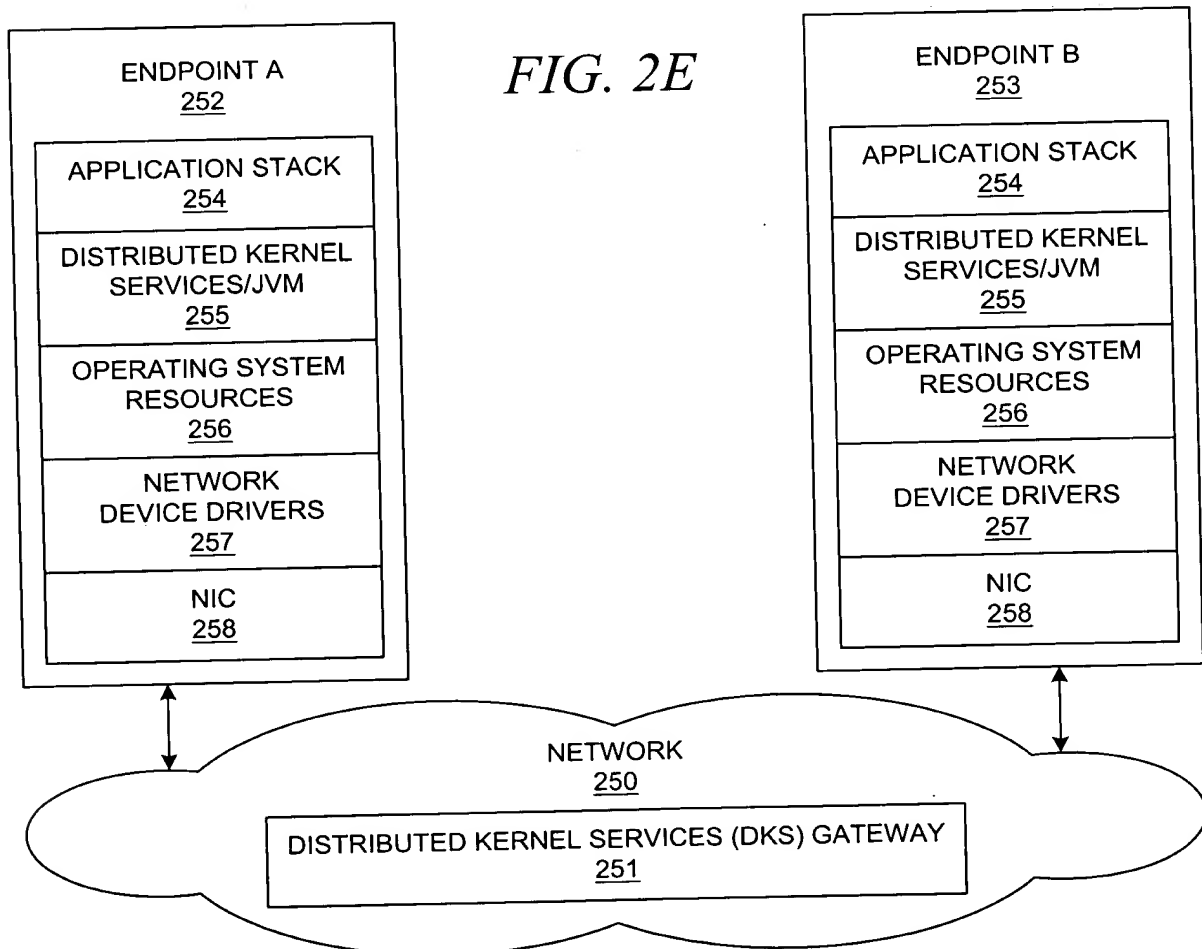


FIG. 2E

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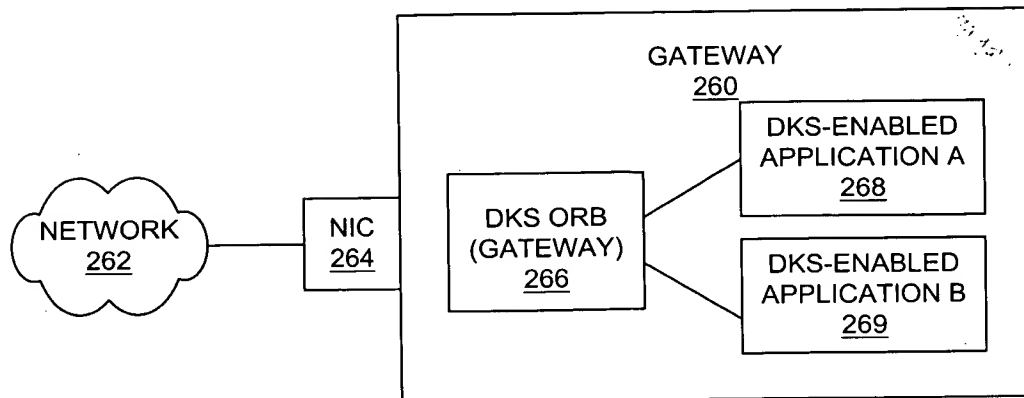


FIG. 2F

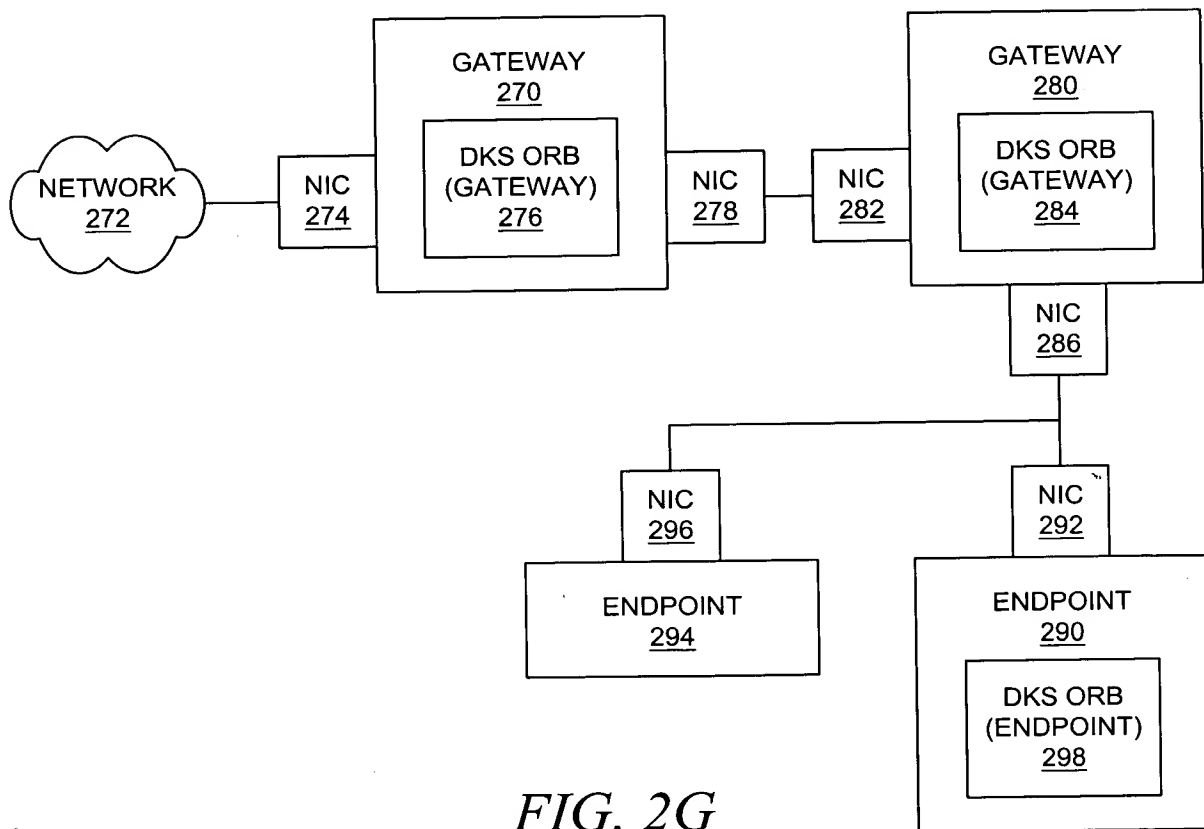


FIG. 2G

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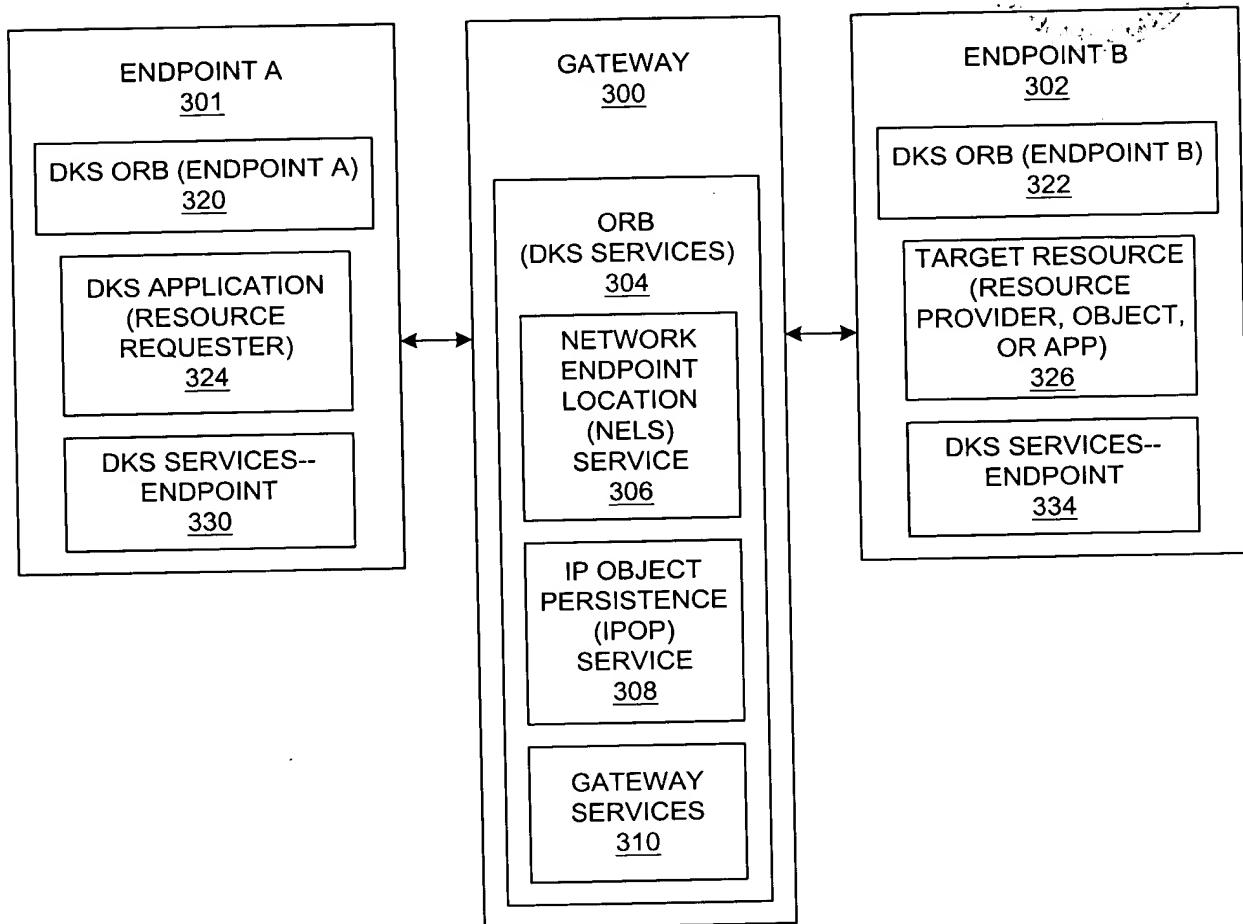


FIG. 3

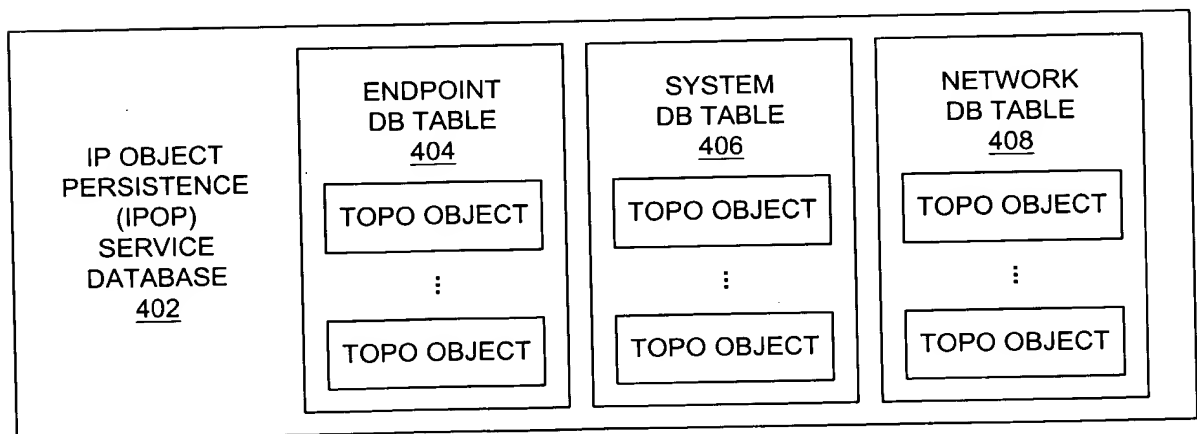


FIG. 4

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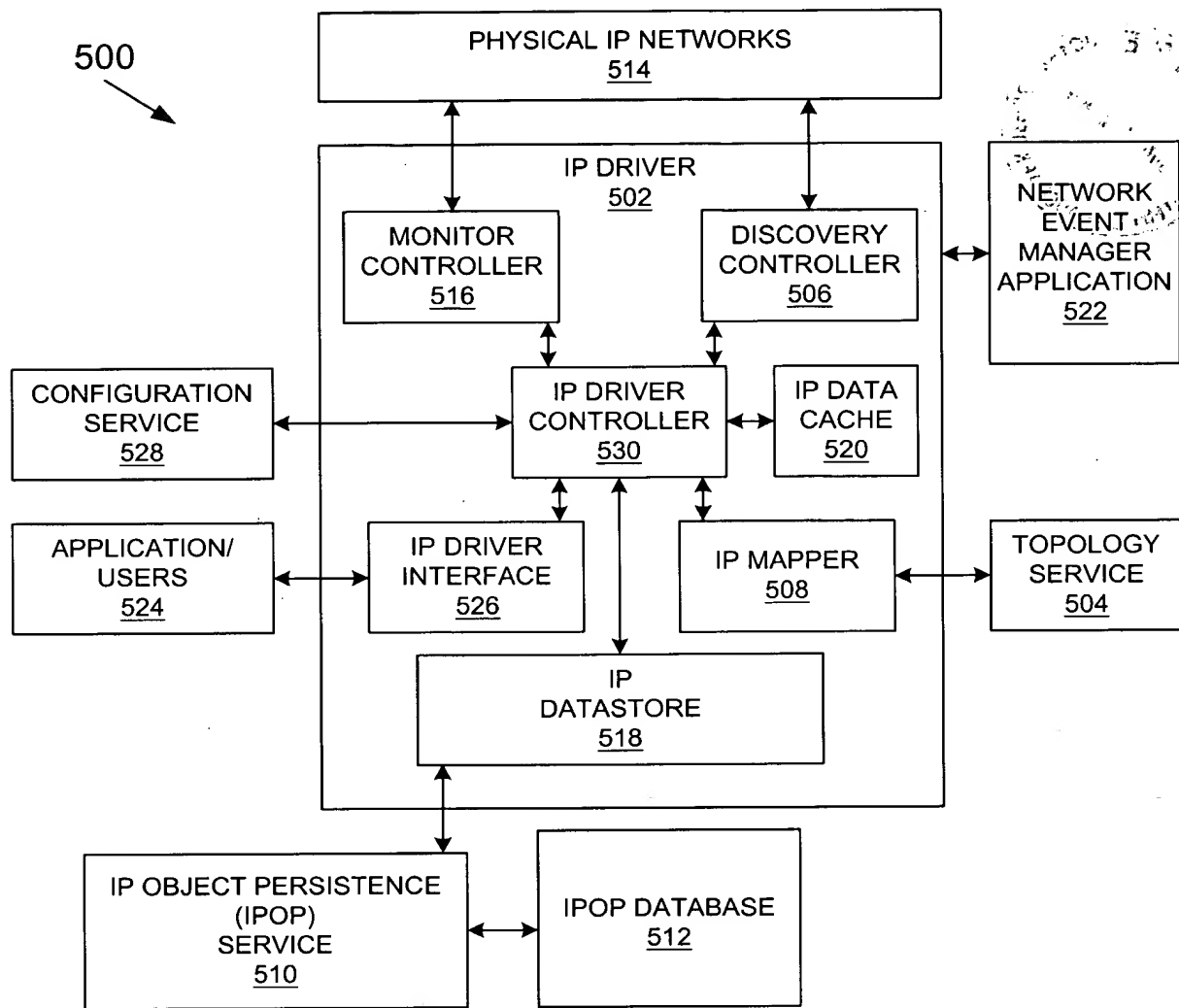


FIG. 5A

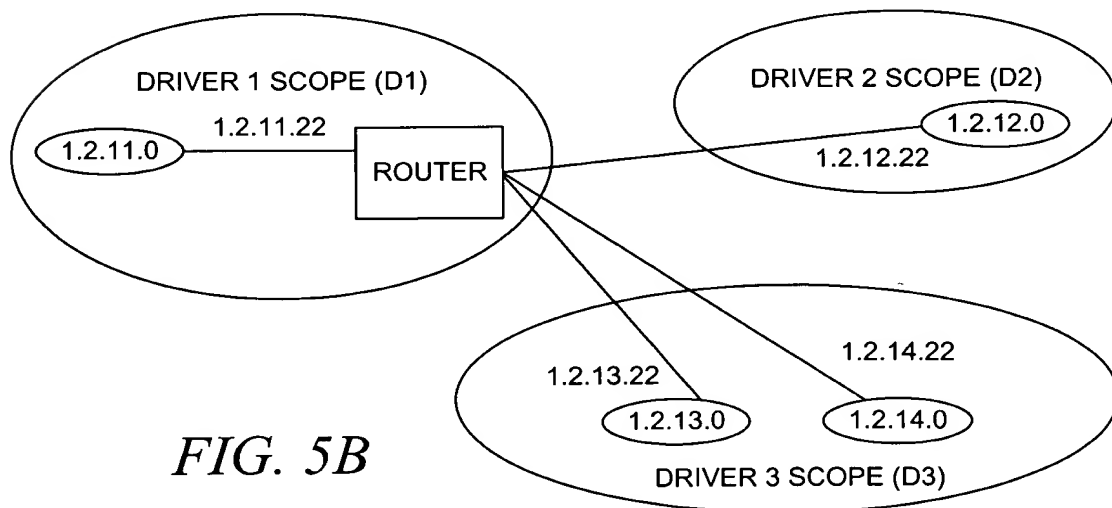


FIG. 5B

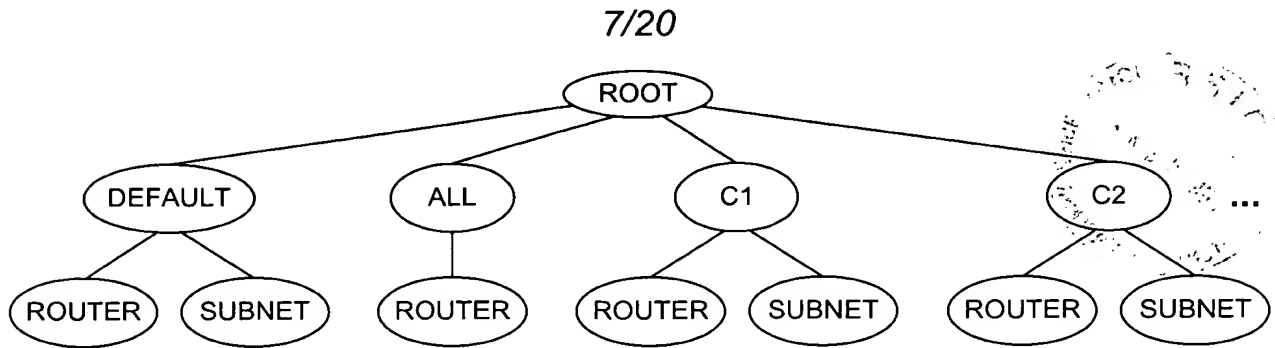


FIG. 5C

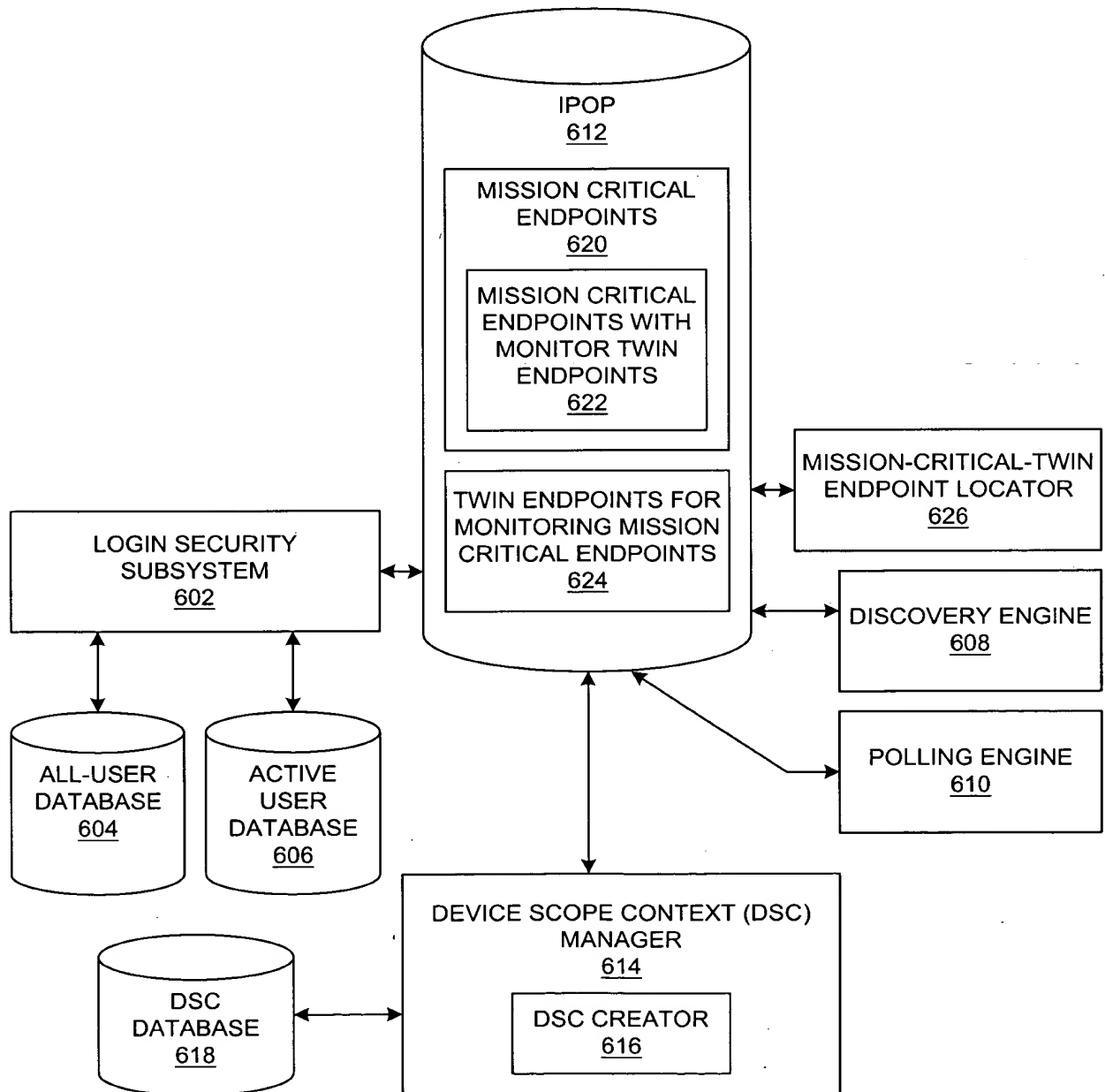


FIG. 6

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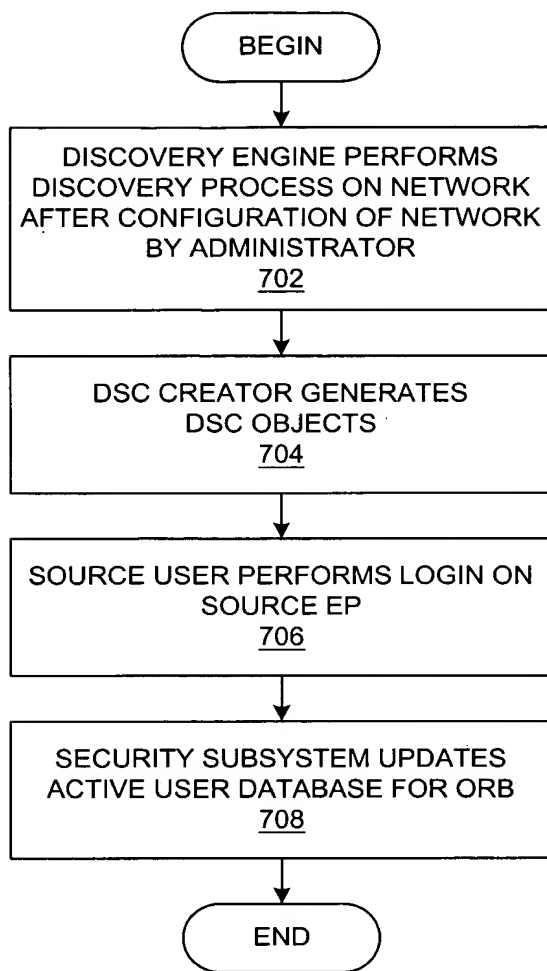


FIG. 7A

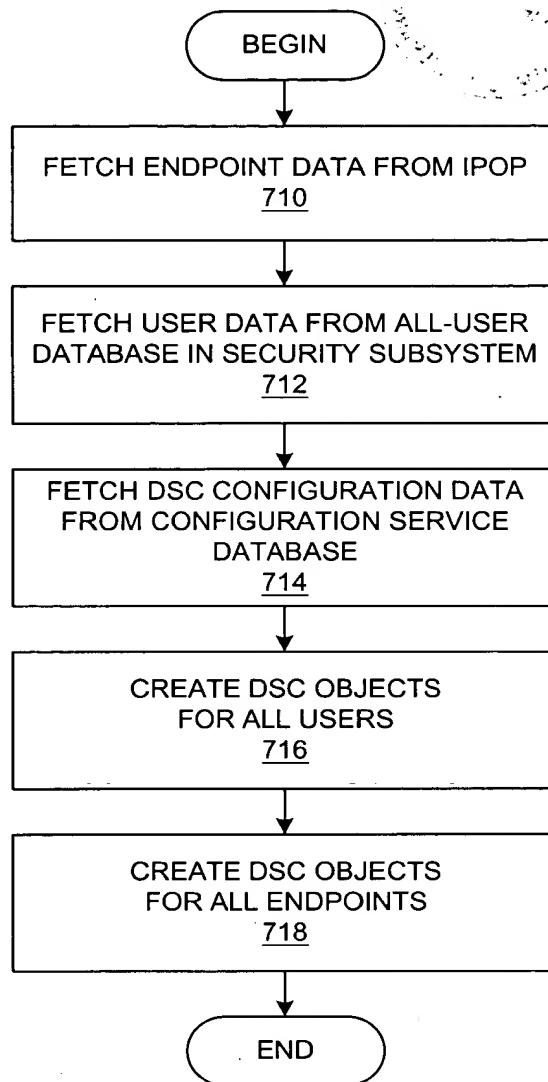


FIG. 7B

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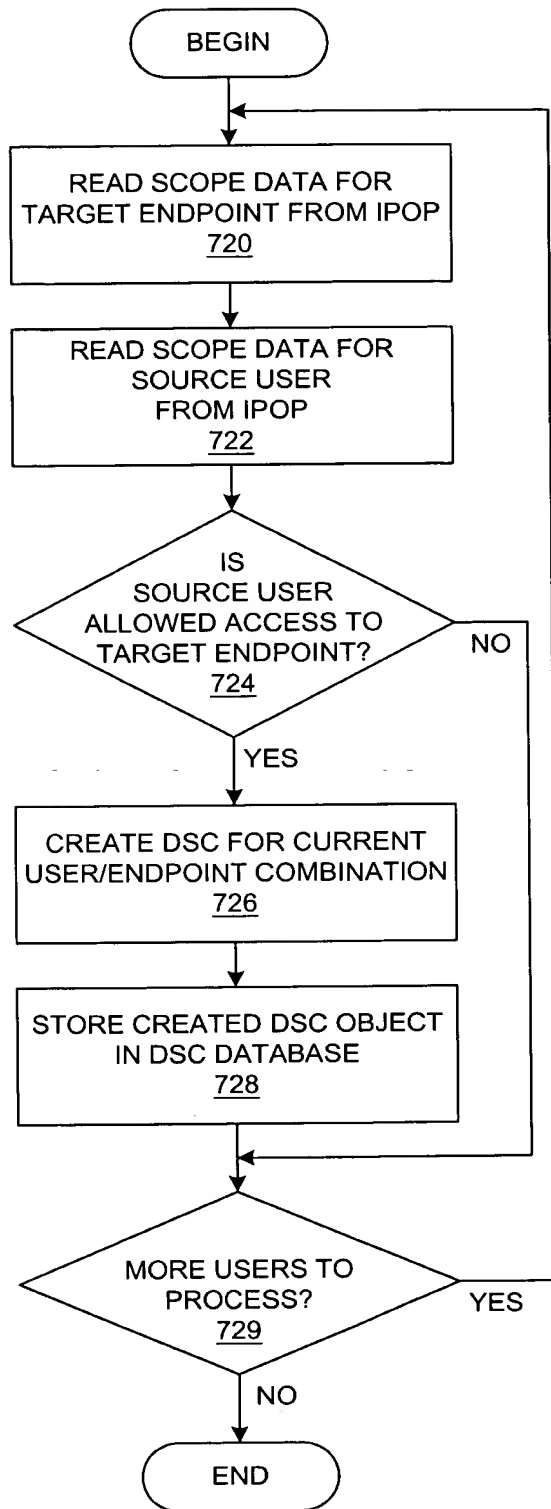


FIG. 7C

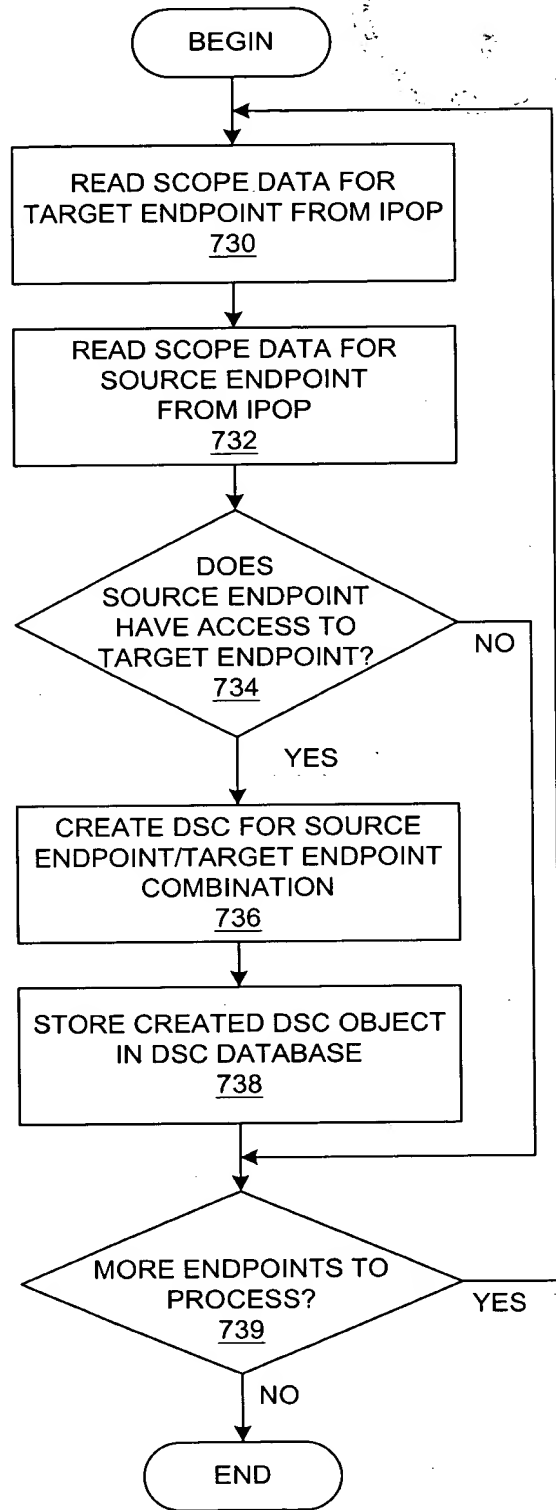


FIG. 7D

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Network Management Application

ADAPTIVE MONITORING SETTINGS

POLLING INTERVAL MINUTES ~ 804

☒ SOURCE USER ~ 805 ~ 806

☐ SOURCE ENDPOINT ~ 807 ~ 808

PRIMARY DSC

☒ BY USER ~ 812

☐ BY ENDPOINT ~ 814

802

810

SET 816

CLEAR 818

FIG. 8A

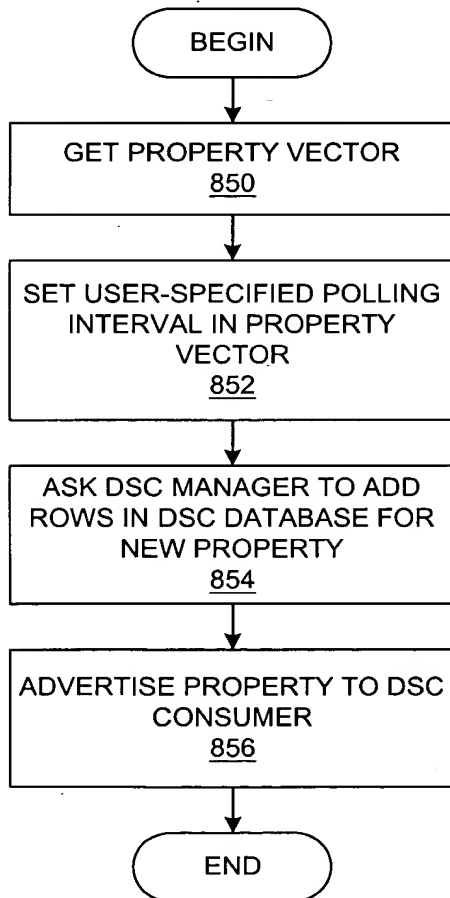


FIG. 8C

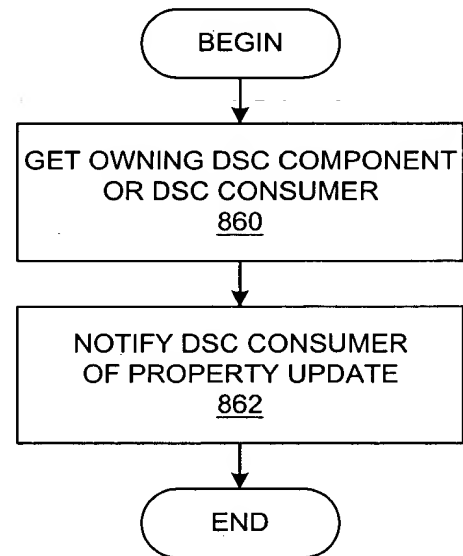


FIG. 8D

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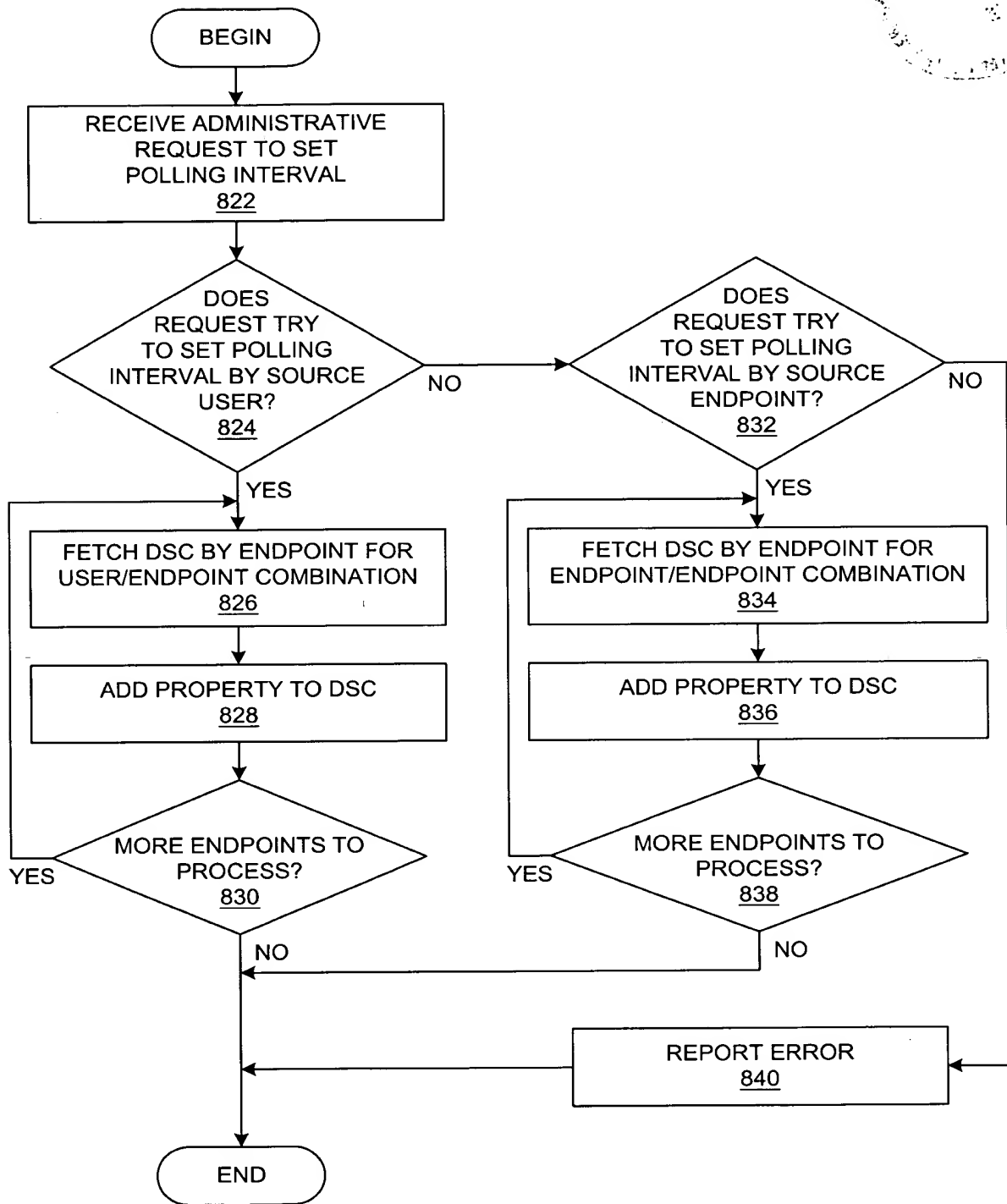


FIG. 8B

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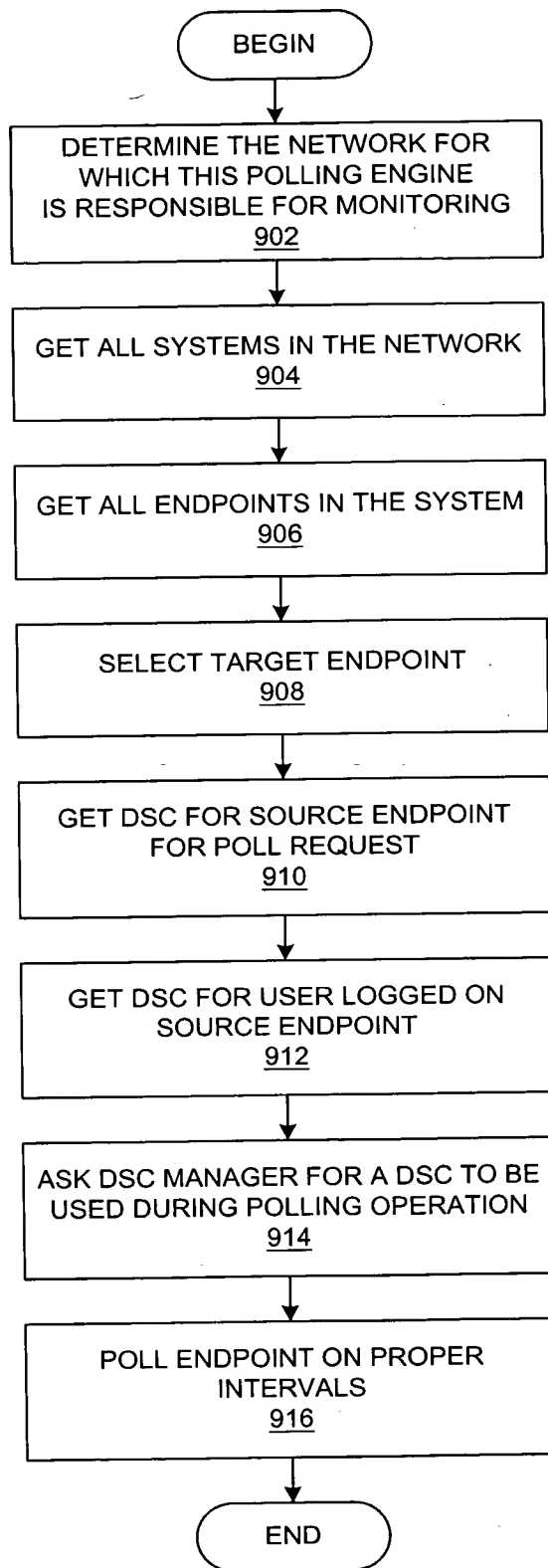


FIG. 9A

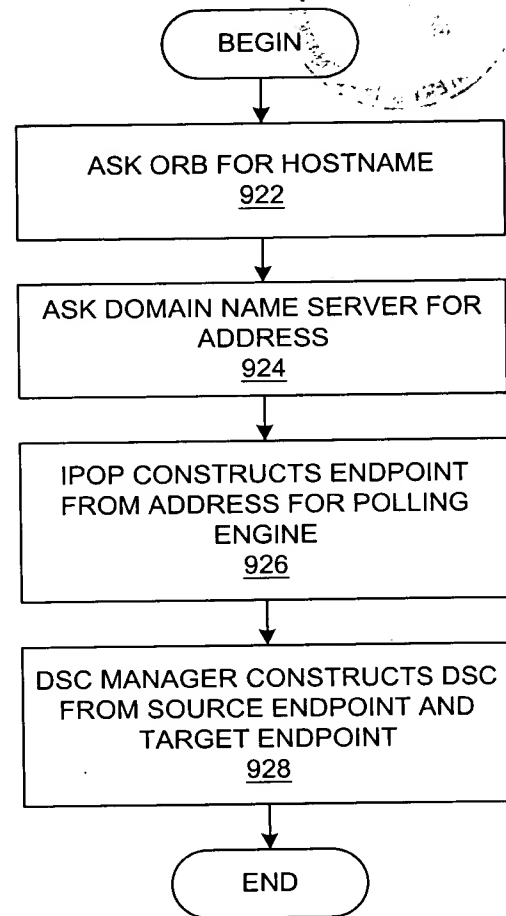


FIG. 9B

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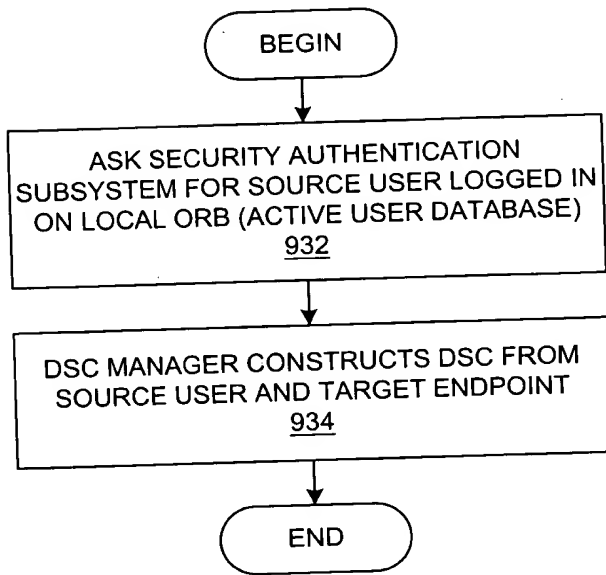


FIG. 9C

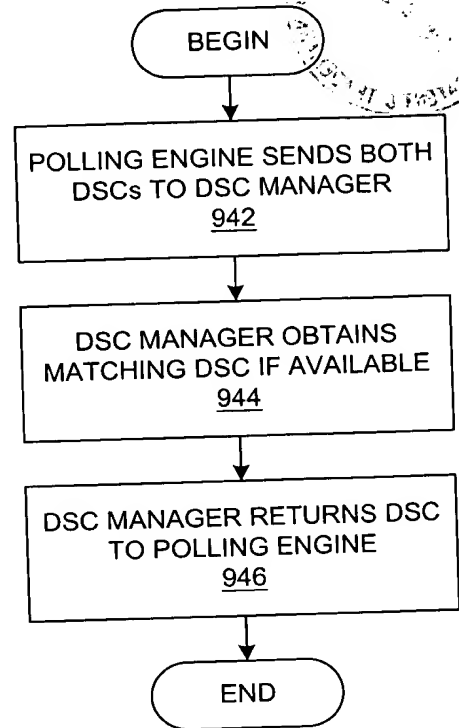


FIG. 9D

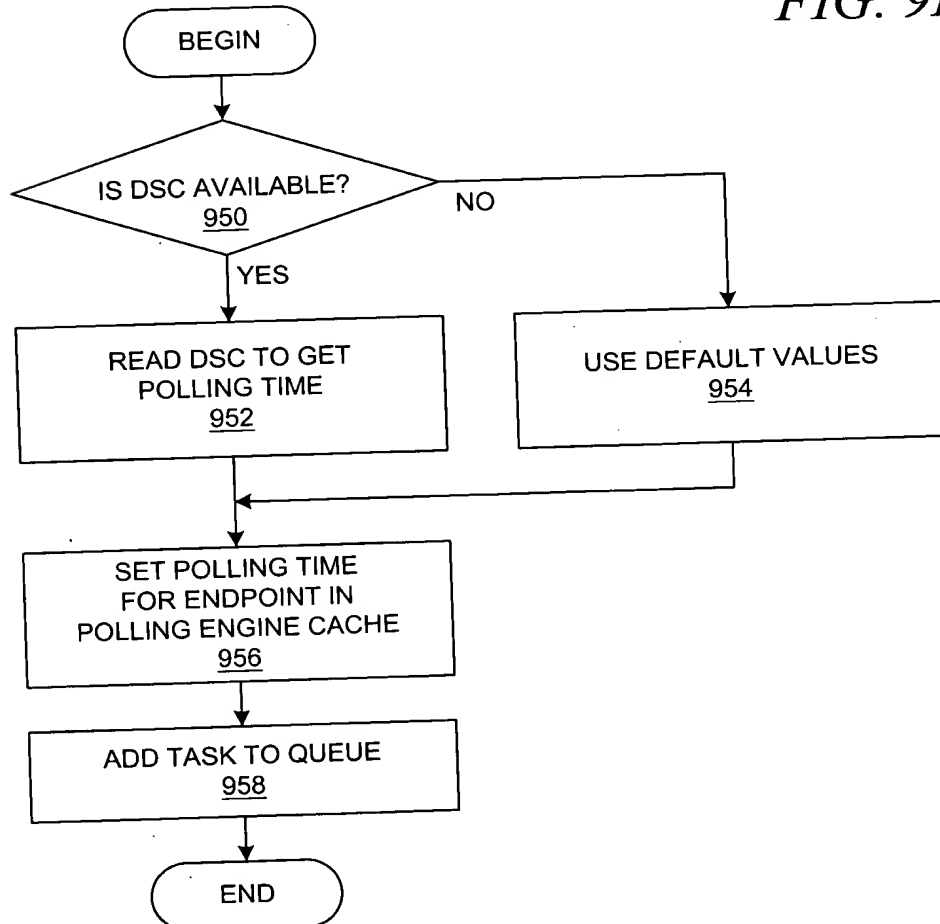


FIG. 9E

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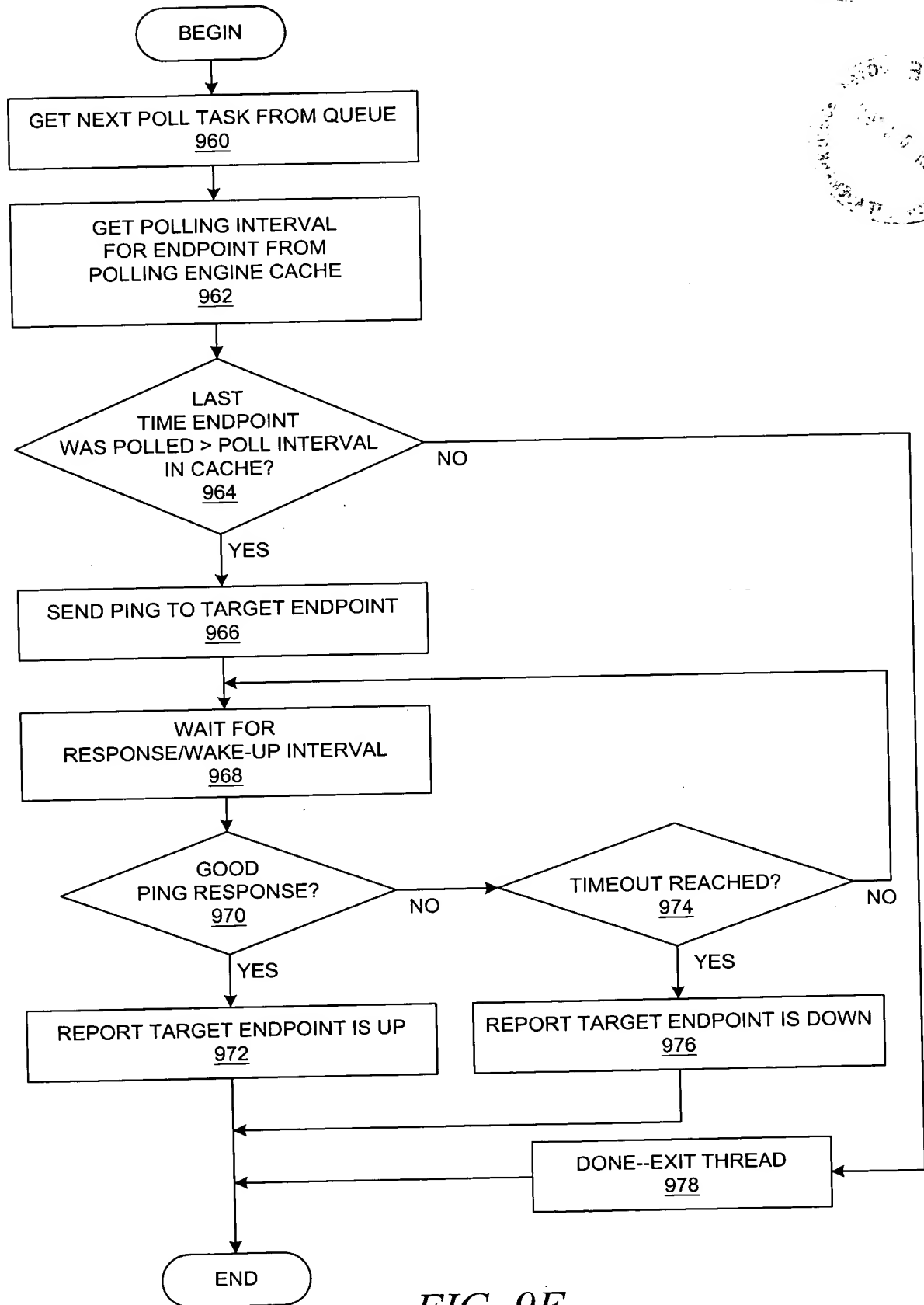


FIG. 9F

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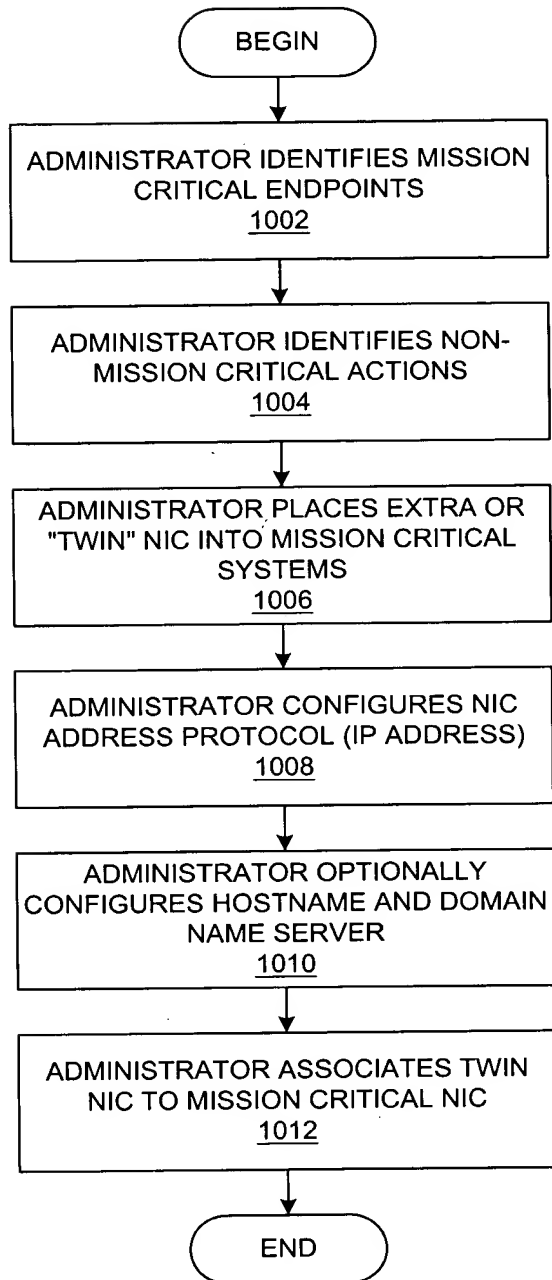


FIG. 10A

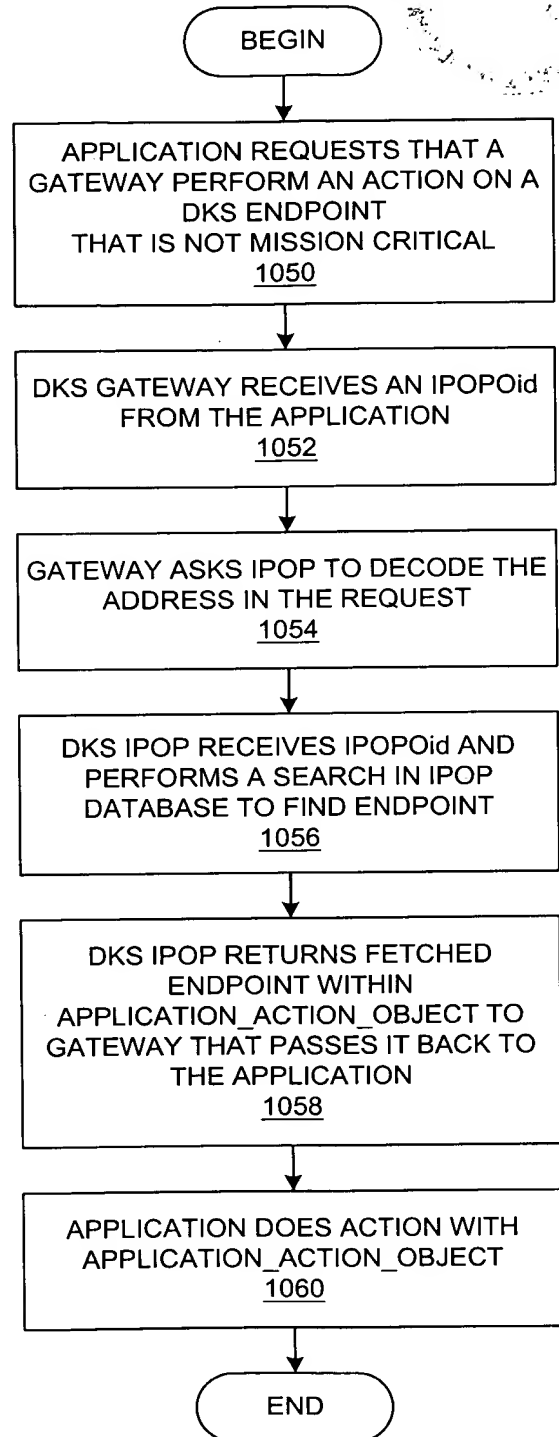


FIG. 10D

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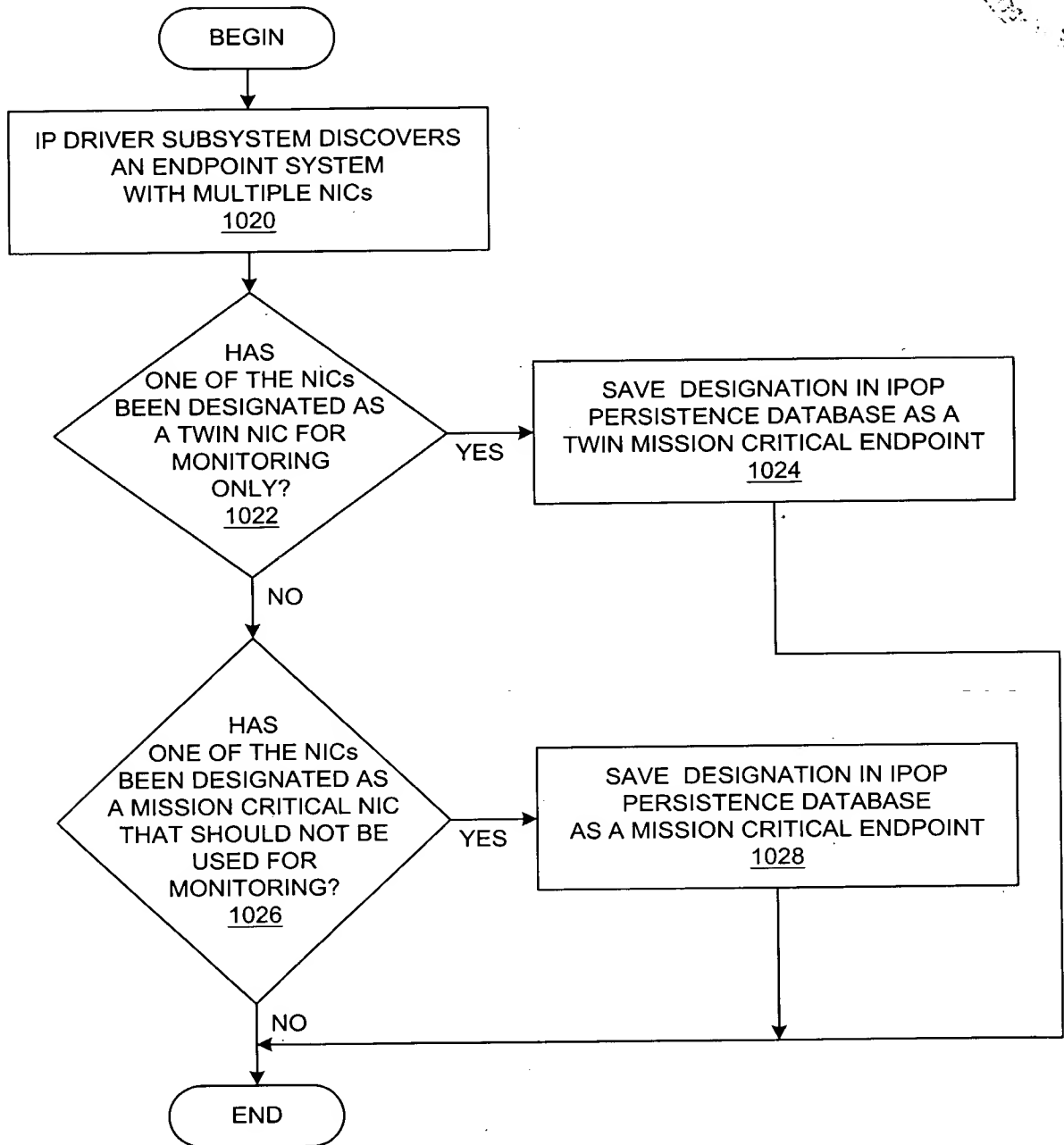


FIG. 10B

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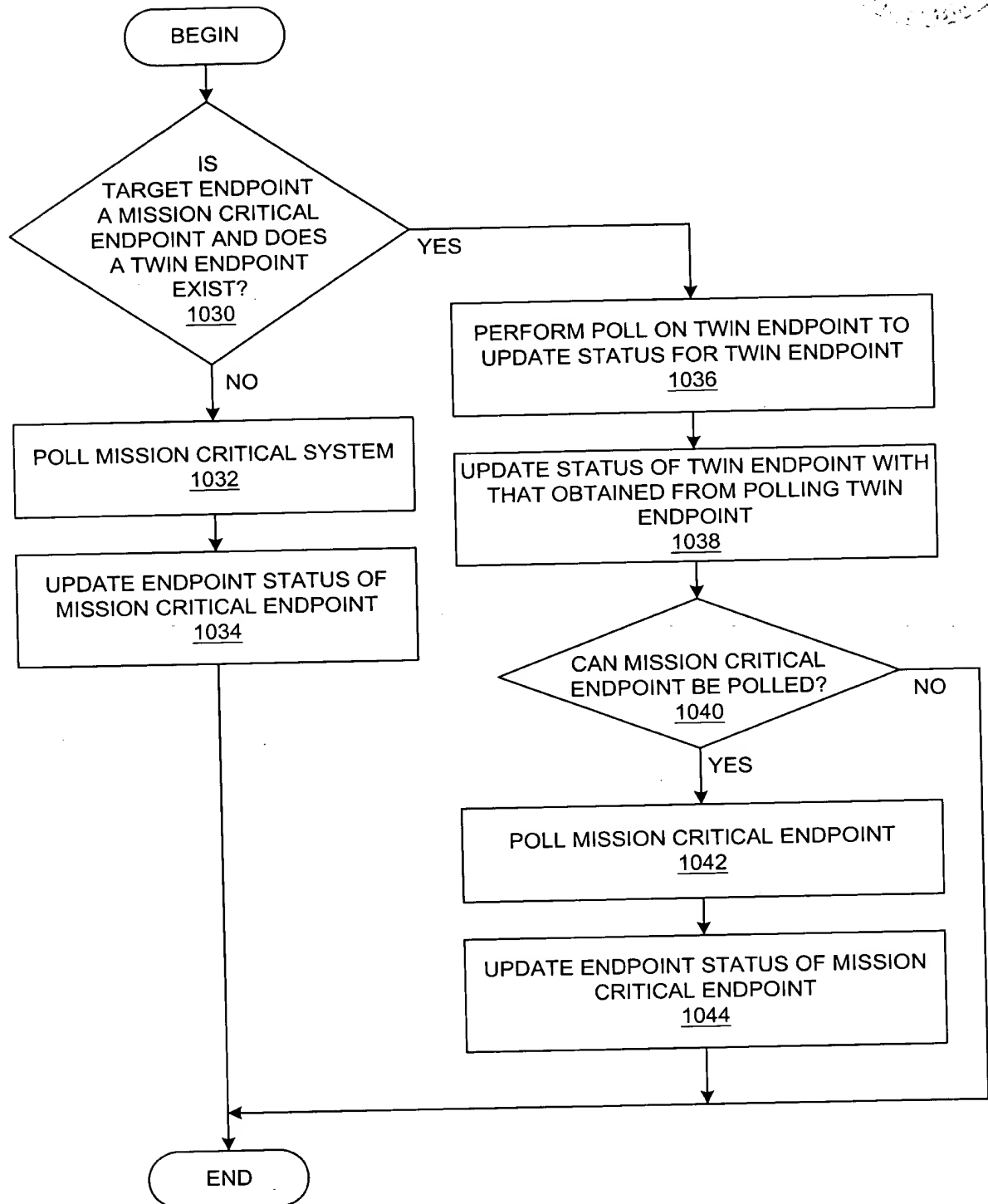


FIG. 10C

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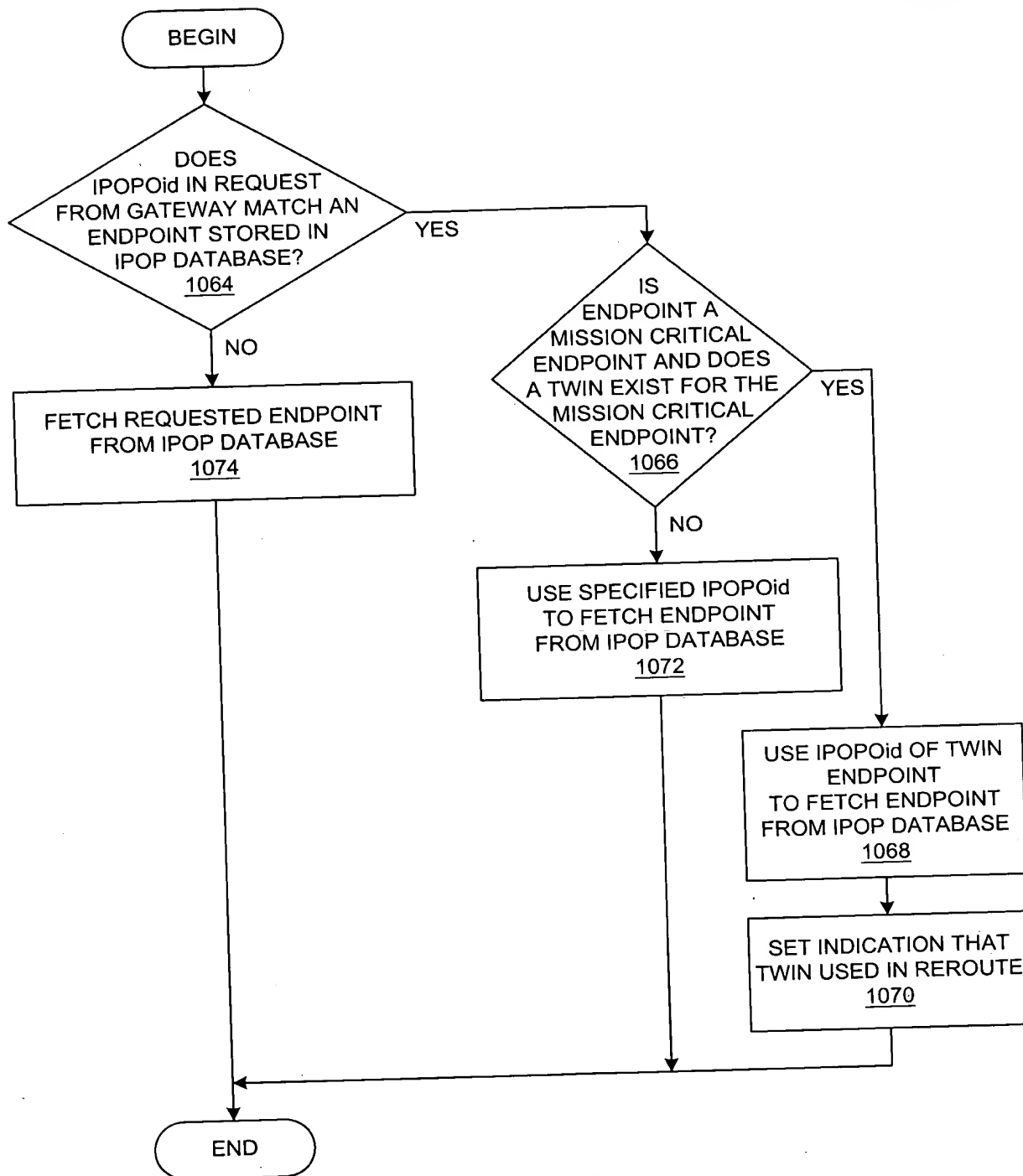


FIG. 10E

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1090

Network Management Application

MISSION CRITICAL TWIN ASSIGNMENT--MISSION CRITICAL ENDPOINT: 7.17.13.11 1091

ENDPOINT TO USE AS TWIN:

☐ MAC ADDRESS: 1093

☒ VPN NUMBER: 1094 IP ADDRESS: 1095

1092

SET 1096 CLEAR 1097

FIG. 10F

CLASS ACTION_OBJECT {

// CONSTRUCTOR

ACTION_OBJECT(LONG IPADDRESS, SHORT VIRTUALPRIVATENETWORKADDRESS)

THROWS BADADDRESS ...

...

VOID PERFORMACTION() // EXECUTES ACTION METHOD

...

}

FIG. 11A

CLASS APPLICATION_ACTION_OBJECT EXTENDS ACTION_OBJECT {

boolean IsMissionCriticalAction;

// TRUE = USED TO PERFORM ENTERPRISE-RELATED WORK

// FALSE = USED TO PERFORM MONITORING OPERATIONS

// OR OTHER NON-REVENUE PRODUCING ACTION

boolean TwinUsedinReroute;

// TRUE = IPOP HAS REPLACED REQUESTED ADDRESS WITH AN ADDRESS

// THAT CAN BE USED FOR NON-MISSION CRITICAL ACTION

...

}

FIG. 11B



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Public Class Endpoint {

```
//public variables
long  EObjectID; // ID to object (both private and public network addresses)
InetAddress  EIPAddress; // physical network address (private or public)
long  EPVPN;      // virtual private network ID

// get/set of variables
public long      getObjectID( ) { ... }
public InetAddress  getPAddress( ) { ... }
public long      getVPN( ) { ... }
```

}

FIG. 11C

Class TwinMissionCriticalEndpoint extends Endpoint {

```
.
.
.
    IPOPOid      missionCriticalEndpoint;
                  // Mission critical endpoint that is used to gather status
    IPOPOid      missionCriticalSystem;
                  // Mission critical system

    long          endpointStatus;
    long          twinEndpointStatus;

.
.
.
}
```

FIG. 11D

Class MissionCriticalEndpoint extends Endpoint {

```
.
.
.
    boolean      useForMonitoring; // TRUE = endpoint can be used for monitoring,
                                   // polling, and other system-management-type
                                   // resources

.
.
.
}
```

FIG. 11E

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